

CITY COUNCIL
BUSINESS AND COMMUNITY AFFAIRS COMMITTEE MINUTES

April 4, 2014

The City Council Business and Community Affairs Committee of the City of Norman, Cleveland County, State of Oklahoma, met at 8:33 a.m. in the Municipal Building Multi-Purpose Room located at 201 West Gray on the 4th day of April, 2014, and notice and agenda of the meeting were posted in the Municipal Building at 201 West Gray and the Norman Public Library at 225 North Webster 48 hours prior to the beginning of the meeting.

PRESENT:	Councilmembers Castleberry, Heiple, Williams, and Chairman Griffith
ABSENT:	None
OTHERS PRESENT:	Mr. Roger Gallagher, 1522 East Boyd Ms. Cindy Rogers, 633 Reed Avenue Mr. John Woods, Executive Director, Norman Chamber of Commerce Ms. Tessa Beder, Norman Chamber of Commerce
STAFF PRESENT:	Mr. Jeff Bryant, City Attorney Ms. Susan Connors, Director of Planning and Community Development Mr. Terry Floyd, Development Coordinator Mr. Shawn O'Leary, Director of Public Works Mr. Scott Sturtz, City Engineer Ms. Syndi Runyon, Administrative Technician IV

Item 1, being:

PRESENTATION FROM THE PUBLIC WORKS DEPARTMENT INTRODUCING THE TOPIC OF LOW IMPACT DEVELOPMENT.

Mr. Terry Floyd, Development Coordinator, said in October 2013, the Business and Community Affairs Committee (BACA) was tasked with reviewing Green Development (GI) or Low Impact Development (LID). He said Staff previously presented information on water conservation that included the Rain Barrel Program and irrigation systems.

Mr. Scott Sturtz, City Engineer, said LID is a land development approach intended to reduce development related impacts on water resources through the use of storm water management practices that infiltrate, evapotranspire, or harvest and use storm water on the site where it falls. He said green infrastructure (GI) can be defined as natural and man-made landscapes and features that can be used to manage storm water runoff. Examples of natural GI include forests, meadows, and floodplains and examples of man-made GI includes green roofs, rain gardens, and rainwater cisterns. He said LID and GI are interchangeable terms.

Mr. Sturtz said the Storm Water Master Plan (SWMP) protects water quality and the water supply at Lake Thunderbird. He said the SWMP looks at flooding issues, erosion and stream stability, and recreation. Key issues of the SWMP are Stream Planning Corridors and buffer strips, structural and non-structural storm water quality controls, acquisition of drainage easements and rights-of-way, enhanced maintenance of creeks and detentions facilities, and dam safety.

Councilmember Castleberry said constituents he has spoken to would be more than happy to donate easements to allow maintenance of drainage channels and Mr. Sturtz said that is not always the case and there are many channels where easements do not exist.

Mr. Sturtz said City of Norman ordinances that support LID, which include the Landscape Ordinance - establishes minimum landscape areas and buffers along arterial frontage and recommendations of plant materials that are drought resistant; Detention Ordinance – establishes need to detain storm water runoff; Water Quality and Protection Zone (WQPZ) Ordinance – establishes buffer zone requirements along stream corridors and adopted the LID Manual; and Fertilizer Ordinance – protects water quality by restricting the use of phosphorus containing fertilizers. He said the Engineering Design Criteria and Standard Specifications have sections on storm water calculations and management and Flood Plain Ordinances are all tied to LID even though the ordinances are not specific to LID.

Mr. Sturtz said the City of Norman adopted the LID Manual in June 2011 as a part of the WQPZ Ordinance that gives specific design guidelines for design and implementation of LID practices and establishes pollutant (phosphorus, nitrogen, sediment) removal rates for LID practices.

Mr. Sturtz highlighted LID Project practices in Norman that include Rock Creek Road park area, Brookhaven Creek, Merkle Creek, and Bishop Creek. He said the Rock Creek Road park area has wetland plants that remove fertilizers and sediment. He said wildlife is also very beneficial to LID's.

Mr. Shawn O'Leary, Director of Public Works, said the Rock Creek Road project was constructed through a grant with the Oklahoma Conservation Commission and Water Resource, Inc., as a City/State demonstration project where other cities can come to Norman to look at the project to learn more about LID's.

Mr. Sturtz said the Brookhaven Creek was constructed to be a wide natural area with small plants that slows down the water so it can settle better. He said the City mows the area, but purposely left a wide buffer zone to allow native wetland plants to establish. Chairman Griffith asked what types of plants were planted and Mr. O'Leary said 600 trees and 6,000 plants were planted along the corridor. Councilmember Williams asked if allowing vegetation to grow increases mosquito population and other nuisances and Mr. O'Leary said no, the goal is to create a dry system that allows no standing water.

Mr. O'Leary said citizens do not understand why plants are allowed to grow so tall, but it is just a matter of education. He said even City employees have accidentally mowed down some of the trees and plants due to lack of an understanding of wetland habitation. He said the City distributed a newsletter regarding the Brookhaven Creek Project to property owners along Brookhaven Creek in hopes of educating property owners. Councilmember Castleberry asked if a walking trail is planned and, if so, would it be constructed of concrete and Mr. Sturtz said those are decisions that need to be made. Mr. Sturtz said if the trail is Americans with Disabilities Act (ADA) compliant, then concrete would need to be used and Mr. O'Leary said the Trails Master Plan includes a trail along Brookhaven Creek.

Mr. Sturtz said stones were placed in the creek area to construct a natural low water creek crossing. He said newberry riffles, rocks and other materials, are placed in the creek to help slow the flow of water and allow plants to establish. He said the Brookhaven Creek Project cost \$300,000, which is a good investment for the health and longevity of the stream.

Councilmember Heiple asked the percentage of savings of concrete versus natural habitat and Mr. Sturtz said he did not have that information at this time, but would expect 20% to 50% savings for "soft armoring" or natural state. Mr. Sturtz said maintenance is involved on concrete channels and the filtration of fertilizers and sediment is lost. He said concrete channels also increases the velocity of water. Councilmember Griffith said the downstream issues created by a high flow rate can be devastating and costly to control. Mr. O'Leary said as the development industry catches on to LID, more savings will be seen. Councilmember Williams asked if maintenance of natural habitats becomes less expensive and time consuming over years and Mr. O'Leary said while there is a lot of maintenance early on, once plants are established maintenance diminishes.

Mr. O'Leary urged Councilmembers to visit Imhoff Creek and they would see what is being done right in Brookhaven Creek. Councilmember Castleberry asked if Imhoff Creek could be retrofitted and Mr. O'Leary said that is the long term goal, but it is more expensive to construct natural habitats after the fact and takes more time. He said streams with the most chronic problems will be taken care of first, but work will be done on all streams to address the problems of erosion before they become chronic problems.

Ms. Cindy Rogers, 622 Reed Avenue, asked if Imhoff Creek banks could be supplemented with plants instead of having to dig up concrete and Mr. Sturtz said yes, Staff is looking into techniques of stabilizing stream banks without having to do complete reconstructions. He said log banks are areas where logs are used to deflect water from the stream banks and allow dirt to settle behind and around the logs to ease erosion issues. He said this is still a very new idea and a pilot program is being done in the Cambridge Addition. He said log banks have been used on the Illinois River in Tahlequah, Oklahoma, and have shown great promise. He said another technique being looked at is using fallen trees within the creek beds and root balls to stabilize streams naturally.

Mr. Sturtz highlighted current LID projects in Norman. He said a center median was added to the Lindsey Street Project to help collect water to be diverted to other areas instead of having the water run off into the storm drains. He said Staff has found ways to use less paving and more opportunities for rain gardens and infiltration trenches to help absorb the water into the ground.

Mr. Sturtz said Merkle and Bishop Creeks have severe erosion and ten years ago the City would have installed a concrete liner, but today different techniques are being used to reinforce the banks. He said a product known as "scour stop" is being used. Scour Stop comes in two foot by two foot sections and has holes throughout the sections. The scour stops are staked into the ground allowing grass and natural plants to grow through the holes. He said "turf reinforcement mats" are also used to prevent soils from being ripped away and give stability to grass. Councilmember Williams said if these techniques are proven, why would the City use anything else and Mr. Sturtz said these techniques are being promoted among builders and developers. Councilmember Williams asked if these techniques allow high vegetation growth and Mr. Sturtz said yes. Mr. O'Leary said Bishop Creek is a challenge because there are utility poles being threatened by the eroding banks so the City has to work with utility companies. He said there is also sanitary sewer line running across the creek that needs to be addressed.

Mr. Sturtz said the City has a residential Rain Barrel Program that includes workshops. He said hundreds, possibly thousands of rain barrels have been distributed so far through the Environmental Control Advisory Board (ECAB) to citizens in the community. Councilmember Heiple asked if citizens can paint their rain barrels and Mr. Sturtz said yes.

Mr. Sturtz said many developers are beginning to include LID projects in their developments. He said Carrington Lakes Addition has the strongest LID development so far. He said this development has a series of ponds with walkways around them. He said many new developments have no curb and gutters, which allows water to be directed to areas with plants such as ponds or rain gardens. Chairman Griffith asked if moving away from curb and gutter is a LID concept or is it because it is cheaper and Mr. O'Leary said it has basically been for drainage reasons. Councilmember Williams said no curb and gutter means no sidewalks, which would be a negative factor.

Mr. Sturtz said there are a lot of opportunities in Norman for constructive wetlands. He said Best Management Practices (BMP) included in the SWMP have many benefits that include a high degree of nutrient uptake and sediment removal, creation of aquatic habitats, and watersheds that can be multiple sizes.

Mr. Sturtz said current LID Projects include Congress Parkway near Andy Alligators and Little River Trails. He said there is a large area dedicated as a City park at Congress Parkway where a small wetland could be constructed. He said wetlands would have many benefits and projects could be done in conjunction with the University of Oklahoma (OU) as a senior design project that could turn into a long term graduate monitoring program. Staff is working with OU on the concept.

Mr. Sturtz said Staff must continue educating the public and developers and continue looking for LID practices that can be incorporated into City projects. He said LID programs save land and can add more lots to developments if designed correctly. He said LID competitions, like those held in Texas, could be held in Oklahoma to draw attention to GI/LID practices. Chairman Griffith said a LID competition is a great idea since Norman is always looking for ideas to protect the watershed around Lake Thunderbird. Mr. O'Leary said LID competitions are great incentivizing programs because they change the culture of developments and create enthusiasm for more natural ways to use storm water rather than just letting it runoff.

Mr. Sturtz said Staff will be reviewing City Codes to see if there are any barriers to LID development. Staff will continue education efforts and work with developers to encourage them to be innovative on developments.

Items submitted for the record

1. Memorandum dated March 27, 2014, from Terry Floyd, Development Coordinator, through Steve Lewis, City Manager, to Council Business and Community Affairs Committee, with Exhibit A, Brochure entitled, "Municipal Guide to Low Impact Development," from the NAHB Research Center
2. PowerPoint entitled, "Low Impact Development," Business and Community Affairs Committee, April 4, 2014

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Item 2, being:

MISCELLANEOUS DISCUSSION.

None

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The meeting adjourned at 9:40 a.m.